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INL Nominates Five Technologies for 2008 R&D 100 Competition

by Keith Arterburn, *INL Communications*

Idaho National Laboratory has nominated five technologies to represent the laboratory in R&D Magazine's worldwide competition for the top 100 technologies of 2008.

INL has won 37 international R&D 100 awards since 1986, earning a 26.8 percent selection rate. The winners of this coveted award will be honored at a special dinner held on Navy Pier in Chicago in October 2008. The five technologies representing INL include:

Antibody Profiling Identification (AbP ID) and Image ID

Antibody Profiling Identification test kit soon will be on the market.

Summary: INL researchers developed a rapid, inexpensive method to identify forensic evidence based on unique individual auto-antibody patterns. AbP ID incorporates a testing system and innovative pattern recognition software to expedite identifications. Industry experts see AbP ID as an important complementary tool to DNA processing.

AbP ID Licensee: Identity Sciences, LLC., Alpharetta, Ga. http://www.identitysciences.com

Research Team (click here to view picture): Vicki Thompson, William Apel, Gordon Lassahn, Greg Lancaster, Elizabeth Taylor, Karen Delezene-Briggs, Debby Bruhn, Heather Silverman, and Joni Barnes. The Identity Sciences, LLC team includes J. Kenneth Luke, Gene Venesky, Kenneth Haas, Carol Haas, Jacob Haas and Lawrence Cook.

Tech Transfer Contact: John Snyder, 208-526-9812

Autonomous Realtime Threat-Hunting Robot (ARTHR)

Summary: INL researchers developed an intelligent plug-and-play robot payload that transforms commercial robots into effective first responders for deadly chemical, radiological and explosive threats.

Click here to read the fact sheet.
Click here to view the video.

Research Team (click here to view picture): David Bruemmer, Curtis Nielsen, Scott Hartley, Douglas Few, Miles C. Walton, Robert Kinoshita, John Whetten, David Gertman

Tech Transfer Contact: Charity Follett, 208-526-9353

ARTHR can be deployed on various types of robots for hazardous tasks, including countermine operations (top) and marking mine-free safe lanes (bottom).

Motion-to-Energy (M2E™) Power Generation Technology

Tests at Boise State University's Biometrics Lab helped define optimal device orientation and test power output for different activity levels.

Summary: INL researchers developed M2E, a new technology that converts motion to energy. M2E uses an innovative, optimized microgenerator with power management circuitry that kinetically charges mobile batteries from natural motion such as walking.

M2E Licensee: M2E Power, Inc., Boise, Idaho. http://www.m2epower.com/

Click here to view the video.

Research Team: Eric Yarger (click here to view photo), David Spencer, Dale Christiansen, John Richardson, John Morrison and Ron Larsen. The M2E Power, Inc. team includes David Rowe, Regan Rowe, James Gutierrez, and Michael Kelly.

Tech Transfer Contact: Tom Harrison, 208-526-1710

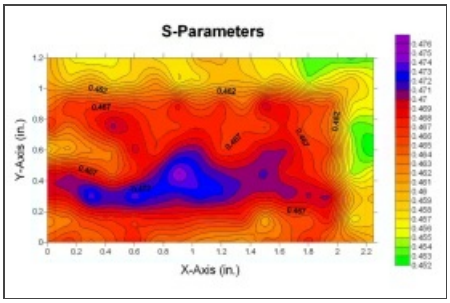
Portable Positron Measurement System (PPMS)

Summary: INL researchers developed an automated, nondestructive inspection system based on positron annihilation, which characterizes in situ atomic-level properties of materials during formation, solidification and heat treatment.

Click here to read the fact sheet.
Click here to view the video.

Research Team (click here to view picture): Douglas Akers, Mark Drigert, and Lyle Roybal.

Tech Transfer Contact: Gary Smith, 208-526-3780



Information gathered by the Portable Positron Measurement System reveals the open-volume defect concentrations in a scanned material. PPMS reveals atomic-level material conditions.

Transmission Line Security (TLS) Monitor

INL researcher John Svoboda presents the Transmission Line Security Monitor, which was designed to enhance transmission line tower security while also providing operational information to boost efficiency.

Summary: INL researchers developed a multisensor monitor that mounts directly on high-voltage transmission lines to detect, characterize and communicate terrorist activity, human tampering and threatening conditions around support towers.

TLS Monitor Licensee: Lindsey Manufacturing Co., Azusa, Calif. http://www.lindsey-usa.com/

Click here to read the fact sheet.
Click here to view the video.

Research Team (click here to view picture): John Svoboda, Robert Polk, Phillip West, Gail Heath, Clark Scott, and Phil Spillane.

Tech Transfer Contact: Lisa Nate, 208-526-2426

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